

## WHAT IS CLAIMED IS:

1. A method for communicating between a bus controller and a at least one data data channel via a common digital bus, the method comprising:
  - transmitting a first message from the bus controller to the at least one data
  - 5 channel at a predetermined bit rate;
  - determining the predetermined bit rate at which the first message was transmitted upon receipt of the first message by the at least one data channel, where the determination is made independent of a synchronous clock signal from the bus controller;
  - 10 transmitting a second message from the at least one data channel to the bus controller in response to the first message at the same predetermined bit rate; and
  - altering the predetermined bit rate and repeating said steps of transmitting the first message, determining the predetermined bit rate, and transmitting the second message.
- 15 2. A method according to Claim 1 further comprising receiving the second message at the bus controller at the same predetermined bit rate independent of a synchronous clock signal.
3. A method according to Claim 1 further comprising transmitting an example message from the bus controller to the at least one data channel at an altered
- 20 bit rate following alteration of the predetermined bit rate and prior to transmission of the first message by the bus controller such that the altered bit rate can be determined upon receipt of the example message by the at least one data channel.
4. A method according to Claim 1 further comprising sending a baud select command from the bus controller that defines a predetermined bit rate at which the
- 25 subsequent first message will be transmitted.
5. A system for facilitating communications between a bus controller and at least one data channel via a common digital bus, the system comprising:
  - a bus controller connected to said common digital bus; and
  - a network device interface connected between the common digital bus and an
  - 30 associated data channel,

wherein said bus controller transmits a first message to said network device interface at a predetermined bit rate,  
wherein said network device interface determines the predetermined bit rate at which the first message was transmitted upon receipt of the first message  
5 independent of a synchronous clock signal from said bus controller,  
wherein said network device interface transmits a second message to said bus controller in response to the first message at the same predetermined bit rate,  
wherein said bus controller alters the predetermined bit rate, and  
wherein said bus controller and network device interface repeat transmission  
10 of the first message, determination of the predetermined bit rate, and transmission of the second message at the altered predetermined bit rate.

6. A system according to Claim 5, wherein said bust controller receives the second message at the bus controller at the same predetermined bit rate independent of a synchronous clock signal.

15 7. A system according to Claim 5, wherein said bus controller transmits an example message to the network device interface at an altered bit rate following alteration of the predetermined bit rate and prior to transmission of the first message by the bus controller such that the altered bit rate can be determined upon receipt of the example message by said network device interface.

20 8. A system according to Claim 5, wherein said bus controller sends a baud select command to said network device interface that defines a predetermined bit rate at which the subsequent first message will be transmitted.

9. A system according to Claim 5, wherein said network device interface uses the predetermined bit rate to communicate with the data channel associated therewith.

25 10. A network device interface adapted to interconnect a bus controller with an associated data channel via a common digital bus, the network device interface comprising:

a receiver for receiving messages from the bus controller via the common digital bus;

a device interface for providing commands to the associated data channel in response to messages received by said receiver and for receiving data from the associated data channel; and

5 a transmitter for transmitting messages to the bus controller via the common digital bus,

wherein said receiver comprises a clock detector for determining if synchronous clock signals are provided with the message and a bit rate detector for determining a bit rate at which the messages are received, wherein said transmitter transmits messages at the same bit rate at which messages are received, if said clock  
10 detector determines that the messages that are received are without any accompanying synchronous clock signals, and wherein said transmitter is capable of altering the bit rate at which messages are transmitted in accordance with alterations of the bit rate at which messages are received.

11. A network device interface according to Claim 10 wherein said receiver  
15 receives an example message from the bus controller at an altered bit rate following alteration of the predetermined bit rate and prior to receipt of the first message at the altered bit rate such that said bit rate detector can determine the altered bit rate at which the example message is received.